



ANDRITZ FEED & BIOFUEL

FUTURE OF BIOMASS TO ENERGY

WBA WEBINAR ON PELLET PRODUCTION LATAM - OCTOBER 2023

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ANDRITZ

ENGINEERED SUCCESS

CHAPTER OVERVIEW



01 ANDRITZ FEED & BIOFUEL

02 FUTURE OF BIOMASS TO ENERGY

03 ALTERNATIVES TO PELLETS

A WORLD MARKET LEADER WITH FOUR BUSINESS AREAS



PULP & PAPER



47%*

Pulp: #1
Paper: #3

METALS



22%*

Forming: #1
Processing: #1-2

HYDRO



17%*

#1-2

SEPARATION



14%*

#1-3 in sludge dewatering
& drying

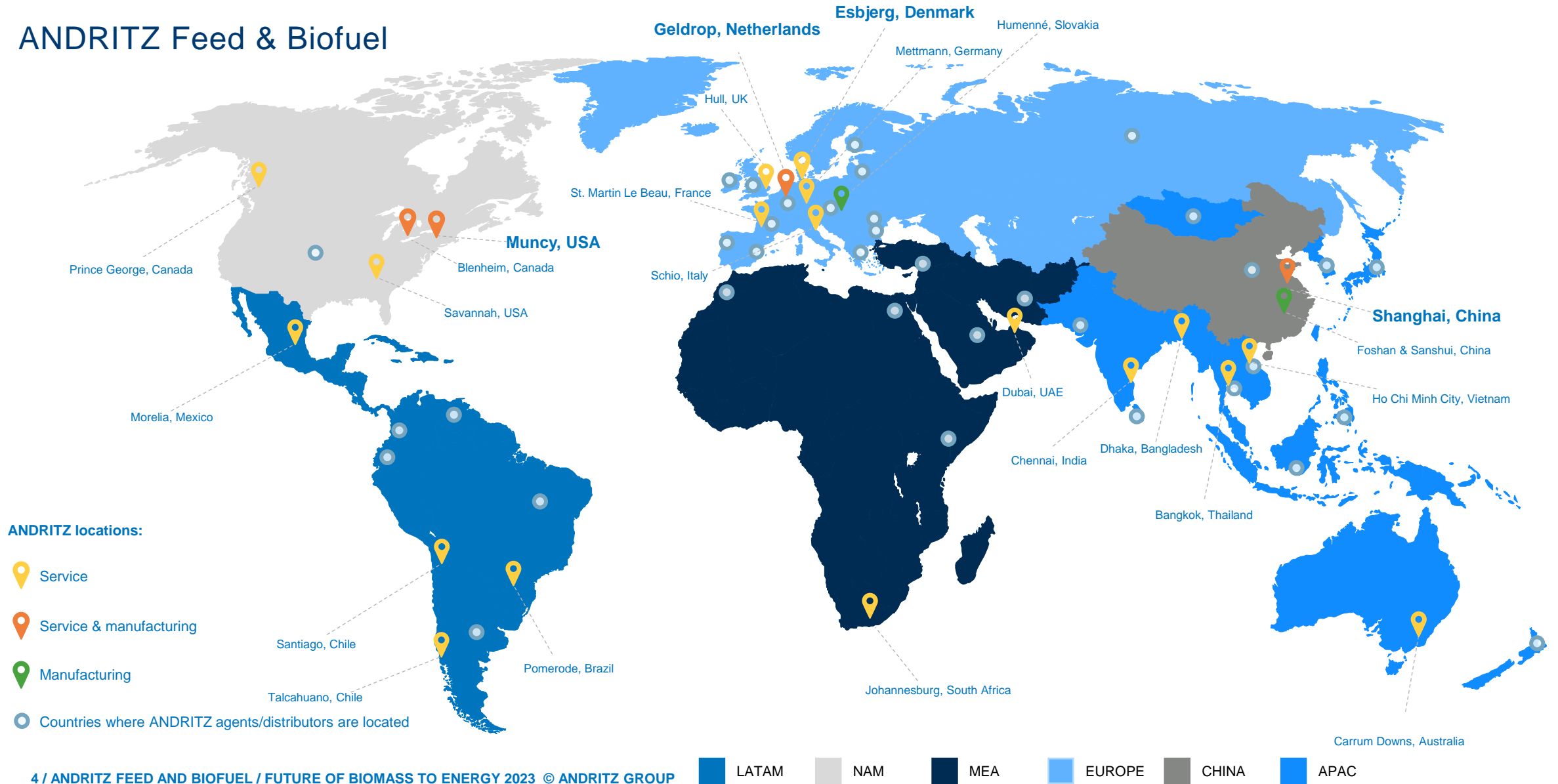
* Share of total Group revenue 2022

Global market position, estimated by ANDRITZ

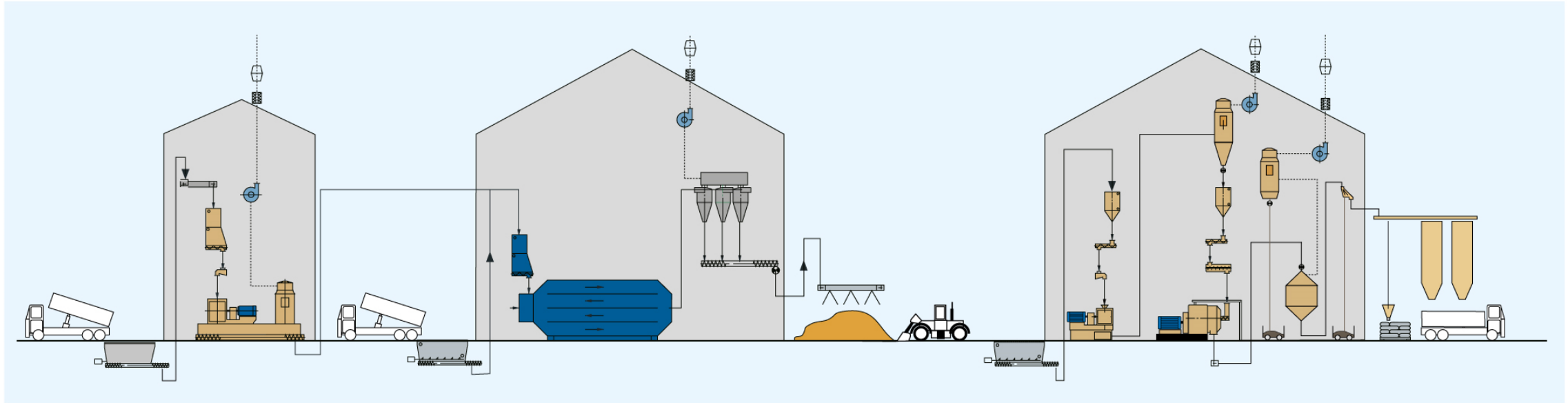
GLOBAL LOCATIONS



ANDRITZ Feed & Biofuel



ANDRITZ BIOMASS TECHNOLOGIES





KEEP YOUR BUSINESS GROWING WITH OUR GLOBAL SERVICE NETWORK

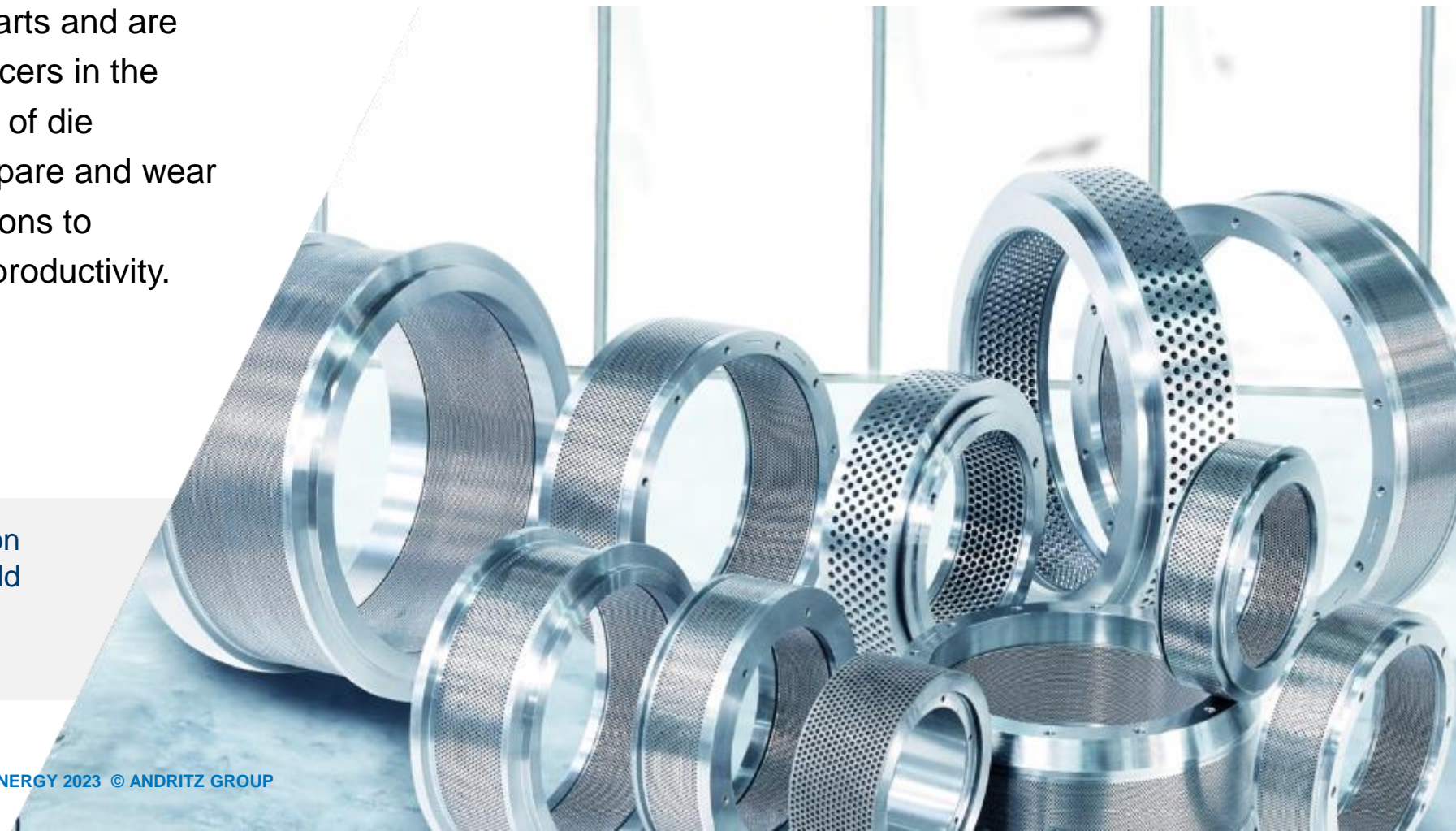
How can we help serve your business?

We manufacture wear and spare parts and are the largest die and roll shells producers in the world; covering approximately 25% of die production around the world. Our spare and wear parts are stocked at strategic locations to minimize downtime and maximize productivity.



25%

of die production
around the world
is covered by
ANDRITZ





FUTURE OF BIOMASS TO ENERGY

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FUTURE BIOMASS PELLETING PLANTS



Raw material types



WOOD AND FOREST RESIDUE

- Virgin logs
- Wood Chips
- Sawmill residues
- Logging residues



AGRICULTURAL BY-PRODUCTS

- Rice straw
- Wheat straw
- Rice husk
- Bagasse

Left over after harvesting or other processing



ENERGY CROPS

- Willow
- Poplars
- Frass

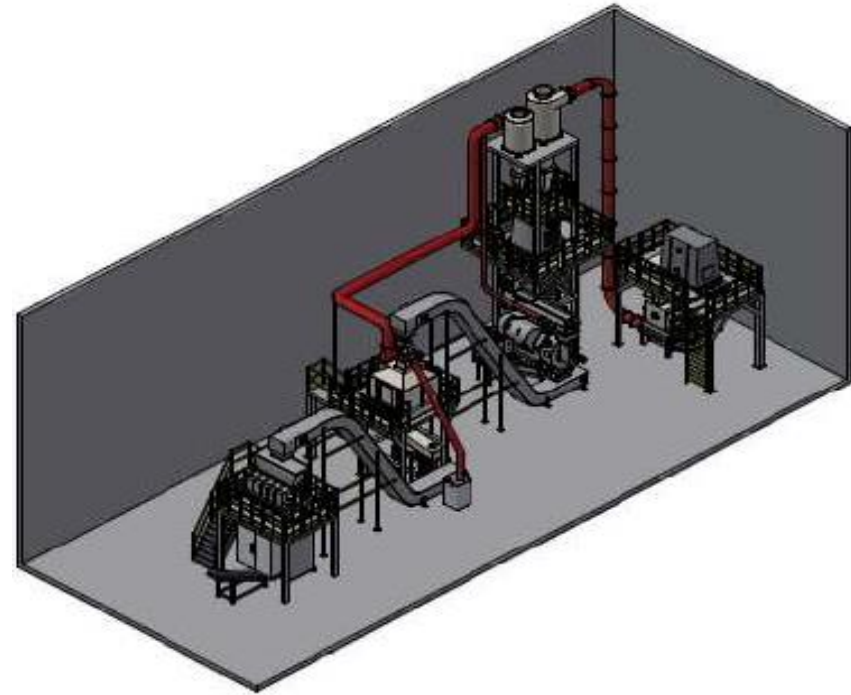
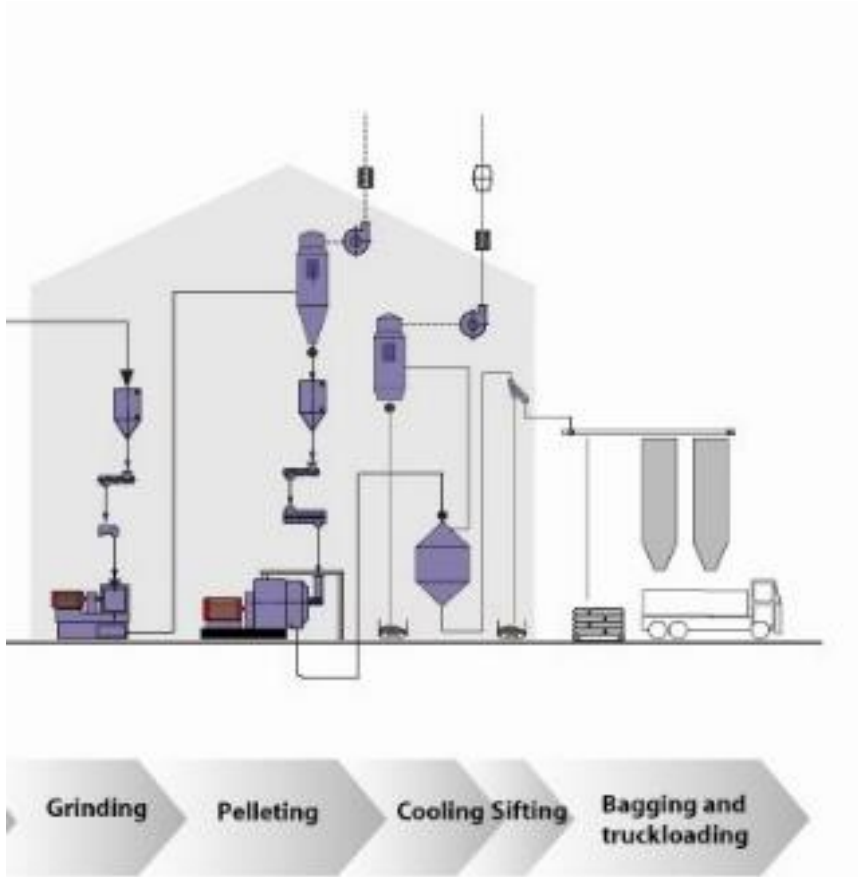
High yielding crop species special planted / harvested with focus on energy production



PLANTATION CROPS

- Eucalyptus
- Yellow pine

DRY FIBER TO PELLET



Poultry house heating

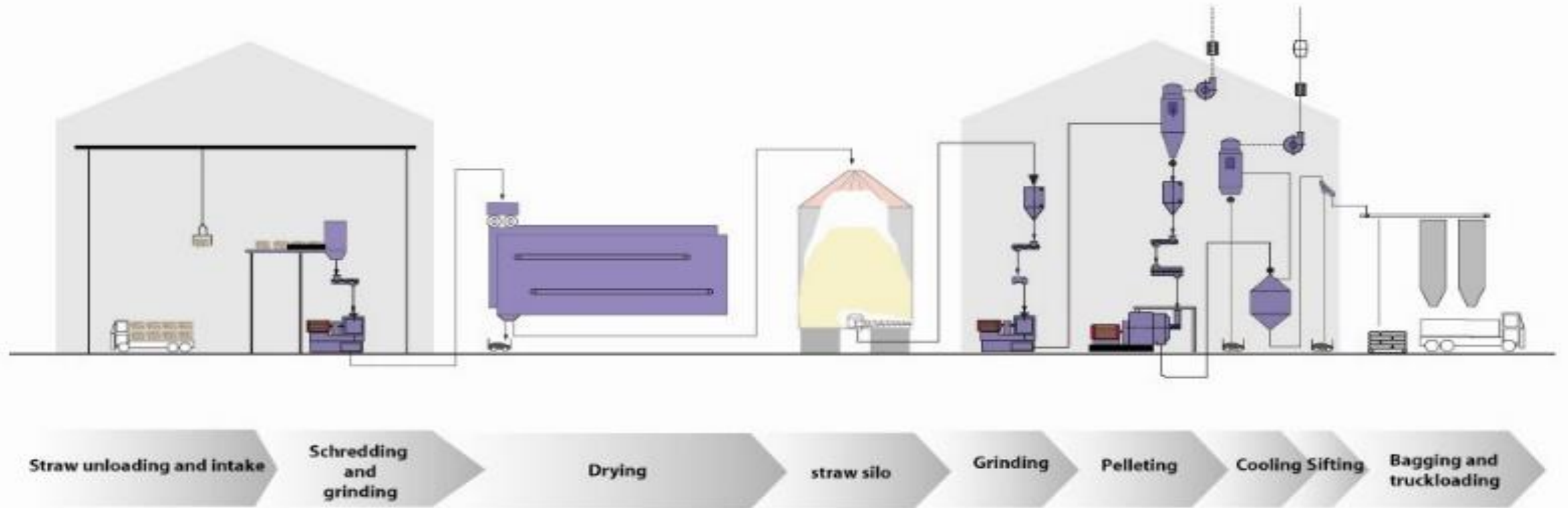
Only 5% of Brazilian aviaries use pellets



Bakery and pizzeria ovens

Only in São Paulo there are 400 ovens using pellets

DRY BALED FIBER TO PELLETT



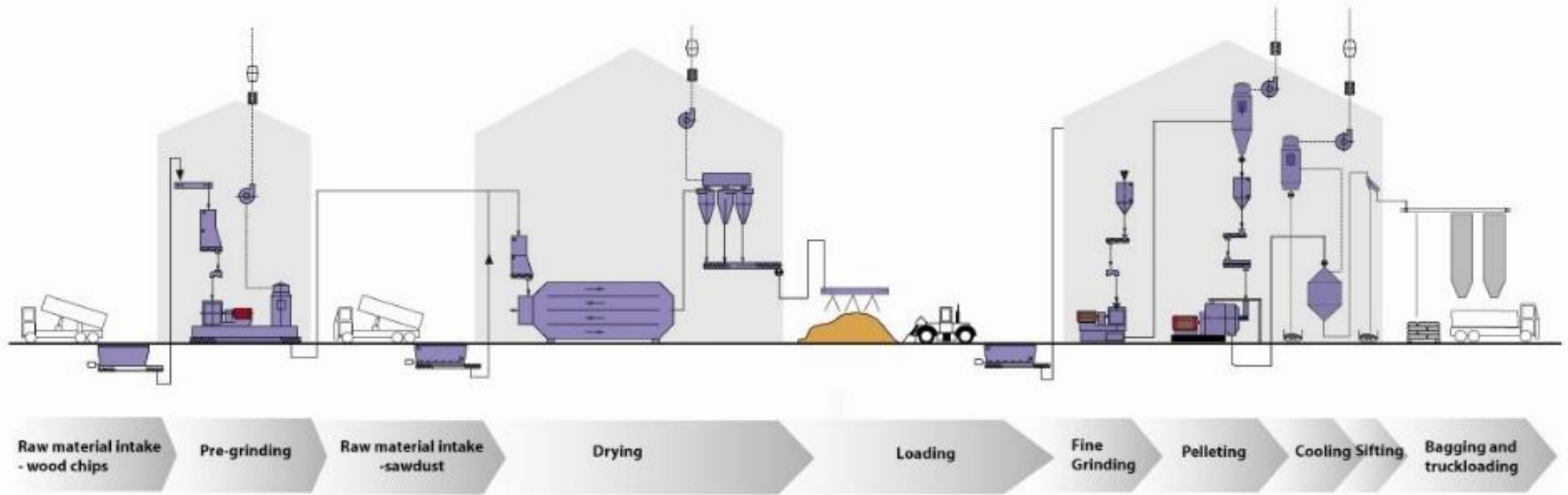
ALTERNATIVE: STRAW PELLETT



- 80 - 100.000 tons/year straw plant
- Wheat, Rap and Miscanthus straw



CHIPS AND/OR SAWDUST OR WET FIBER TO PELLETS

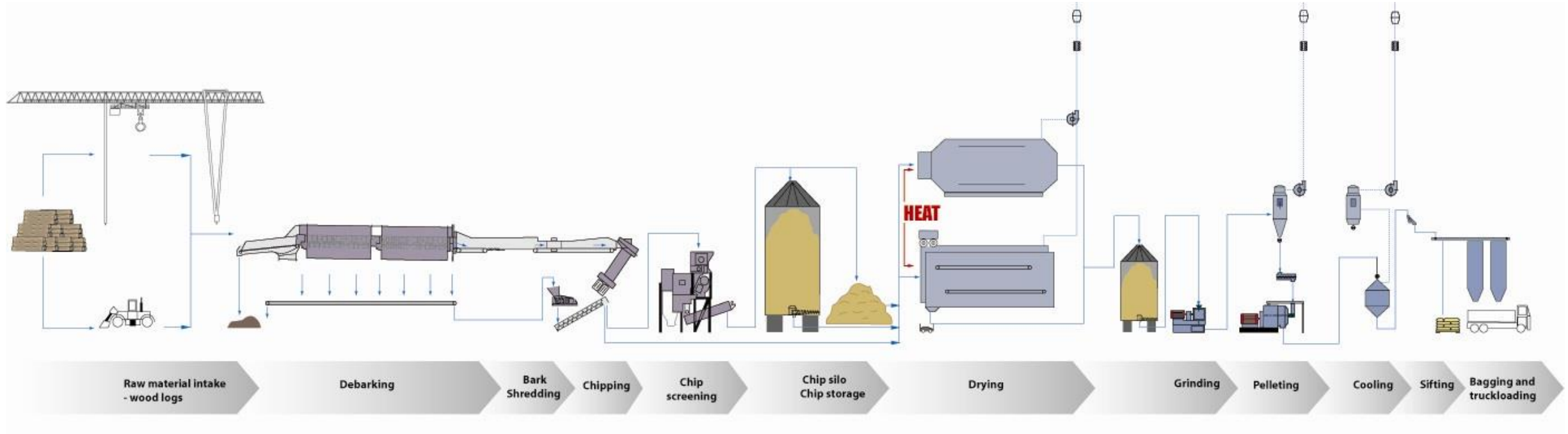


DAILITIMBER



Eucalyptus
Capacity 150,000 TPY

LOGS TO PELLETS



ENVIVA WAYCROSS



Waycross, GA, USA
Southern Yellow Pine
Capacity 1,000,000 TPY

HIGHLAND WOOD PELLETS ASTEC, INC.



Pine Bluff, AR, USA
Southern Yellow Pine
Capacity 600,000 TPY



ALTERNATIVE TO PELLETS

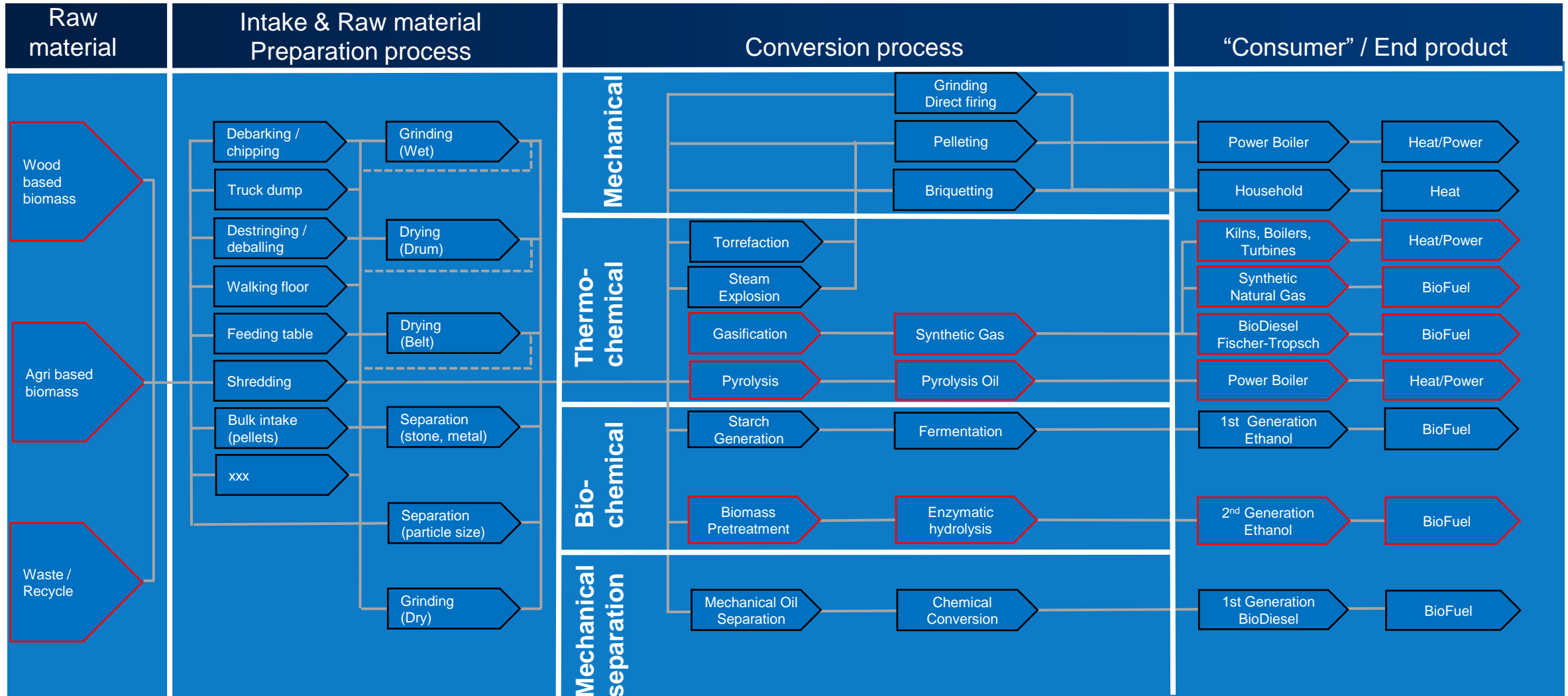
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BIOMASS 3.0 – DEEP PROCESSING



New Opportunities / Different Raw Material / Different End Product





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Let's Talk



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